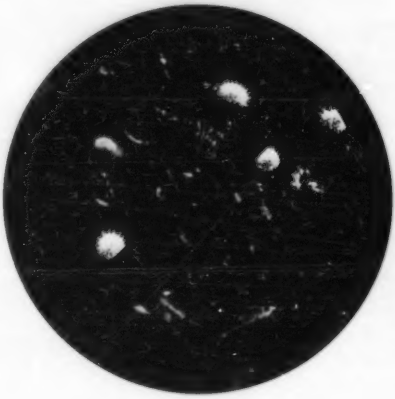
Weed Identification in Alberta



Alberta
ENVIRONMENTAL PROTECTION
Land and Forest Service

Ducks Unlimited Canada

AGRICULTURAL INDUSTRY
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FIELDMEN

TELUS™

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The Weed Control Act

Alberta's Weed Control Act exists to enforce the control of weeds in order to protect landowners and our environment. The Act charges landowners with the responsibility to control weeds on their property, so as to prevent the spread to adjacent properties. For the purposes of the Act, weeds are designated into one of three categories.

Restricted Weeds

Weeds in this category pose a serious threat, and as such must be eradicated. Generally these weeds possess characteristics of rapid spread, and superior competition. **These weeds are usually found in small numbers in Alberta, and are designated restricted to prevent their establishment.** Individual municipalities have the power to, and from time to time **do** elevate certain species to restricted status. Check with your local municipality for weed designations in your area.

Handling Procedures

Restricted weeds are to be **eradicated.** Contact the local municipality, or Agricultural Fieldman and inform them of the location before taking any action. Many of these infestations require hand pulling, but in some circumstances other controls may be necessary.

Noxious Weeds

Weeds designated noxious have the ability to spread rapidly, and cause severe crop losses and economic hardship. These weeds must be controlled to prevent further establishment, and spread.

Handling Procedures

When working on an easement,right of way where noxious weeds are present, all equipment must be thoroughly cleaned (i.e. steam cleaned) before proceeding to the next section of the job. Noxious weeds shall not be transferred from one property to the next or from one county to the next.

Nuisance Weeds

These weeds are common to the Province, and in many cases are native species. They can be found on nearly all land throughout the Province, and as such are very difficult to eradicate. They can cause significant economic losses, but are so biologically suited that they cannot effectively be eradicated.

Handling Procedures

Every attempt should be made to prevent the spread of weeds. Equipment should be thoroughly cleaned between jobs.

Control & Handling

An inspector who finds any restricted or noxious weeds in or on any land, premises, vehicle, standing crop, hay, fodder, machine, grain, elevator, crop processing plant, or equipment shall give notice to destroy the restricted weeds, and may give notice to control noxious weeds. For nuisance weeds the inspector may issue a notice to prevent the spread of these weeds.

The following pages contain pictures of the restricted and noxious weeds listed in the Weed Control Act. Weed control is by legislation the responsibility of the landowner and the occupant. The Agricultural Fieldmen in each Alberta Municipality request that you contact them should you find any of these weeds. With your help we can protect our lands, and maintain agricultural productivity and environmental biodiversity.

Weed Lifecycle

ANNUAL

- Annual weeds complete their lifecycle in one growing season. Annual weeds spread by seed, and therefore must be prevented from producing seed.

BIENNIAL

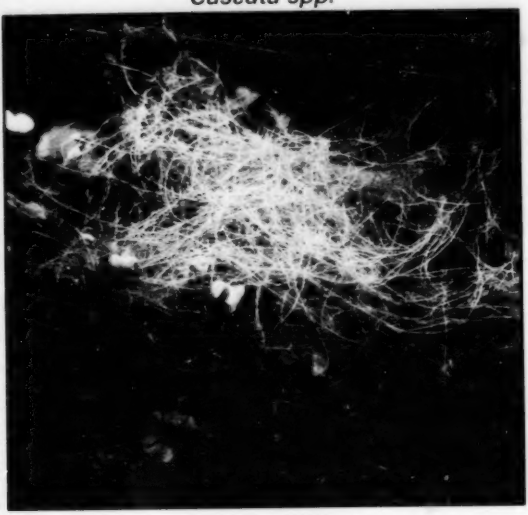
- Biennial weeds require 2 growing seasons to complete their lifecycle. Biennial weeds spread by seed, and therefore must be prevented from producing seed.

PERENNIAL

- Perennial weeds grow from root stalks year after year. Perennial weeds spread by seeds and roots, and therefore the entire plant must be destroyed.

DODDER

Cuscuta spp.



Description

Name: Dodder (*Cuscuta spp.*)

Classification: Restricted

Recognizable features:
Stem:
- yellowish, lacks chlorophyll, twining

Leaves:
- absent or reduced to fine scales

Flowers:
- white to pink, cup-like, numerous in compact clusters

General:
Parasitic annual that spreads by seed. Broadleaf plants serve as hosts, with alfalfa and clover being the most susceptible.

EURASIAN WATER MILFOIL

Myriophyllum spicatum

Description

Name: Eurasian water milfoil *(Myriophyllum spicatum)*

Classification: Restricted

Recognizable features:
Stem:
- slender

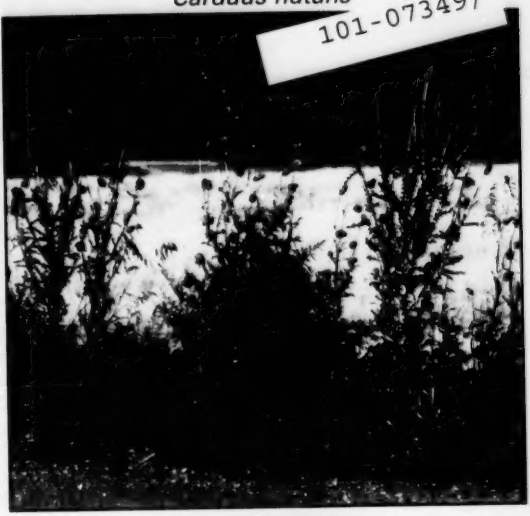
Leaves:
- whorled, finely divided, feathery

Flowers:
- small, 4 petals and 4 sepals which quickly fall off, alternately arranged along the terminal ends of stems, attached directly to the stem

General:
Aquatic, mostly immersed in water.

NODDING THISTLE

Carduus nutans



Description

Name: Nodding thistle *(Carduus nutans)*

Classification: Restricted

Recognizable features:

Stem:
- first year forms a large rosette, following year grows up to 2.5 m tall, usually unbranched

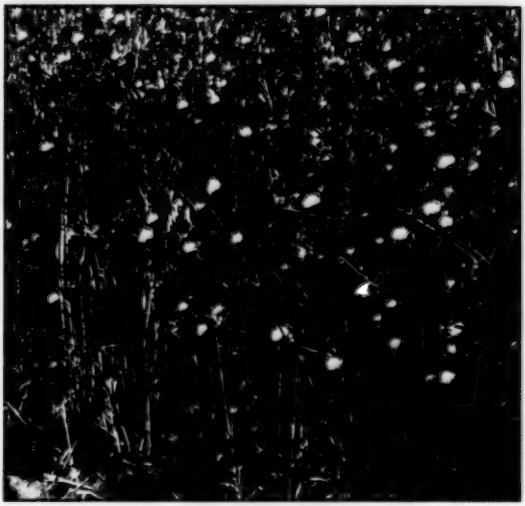
Leaves:
- alternate, spiny margins, deeply lobed, twisted or wavy, dark green with light green mid-vein, woolly to densely hairy, up to 25 cm long

Flowers:
- small pink to purple flowers clustered in a head to resemble a single flower, solitary at ends of branches, flower head 4 - 6 cm in diameter, nodding, 1 - 3 heads / plant, below each head are several rows of spiny bracts

General:
Biennial that spreads rapidly by seed forming extremely dense stands

YELLOW STAR-THISTLE

Centaurea solstitialis



Description

Name: Yellow star-thistle *(Centaurea solstitialis)*

Classification: Restricted

Recognizable features:

Stem:
- erect, branching, rough, up to 1 m tall

Leaves:
- lower leaves are deeply lobed, upper leaves have an entire margin and become smaller towards the top of the plant, fine hairs

Flowers:
- small yellow flowers clustered in a head to resemble a single flower, solitary at ends of branches, sharp yellowish spines up to 2 cm long extend from below the flower head

General:
Annual that spreads by seed. Unable to utilize rangeland when yellow star-thistle is present. If grazed, causes a nervous disorder known as "chewing disease" that can result in death of the animal.

DIFFUSE KNAPWEED

Centaurea diffusa

Description

Name: Diffuse knapweed *(Centaurea diffusa)*

Classification: Restricted

Recognizable features:

Stem:

- erect with numerous branches, up to 1 m tall

Leaves:

- initially form a rosette, later become alternate, divided into narrow segments, rough, hairy, grayish - green

Flowers:

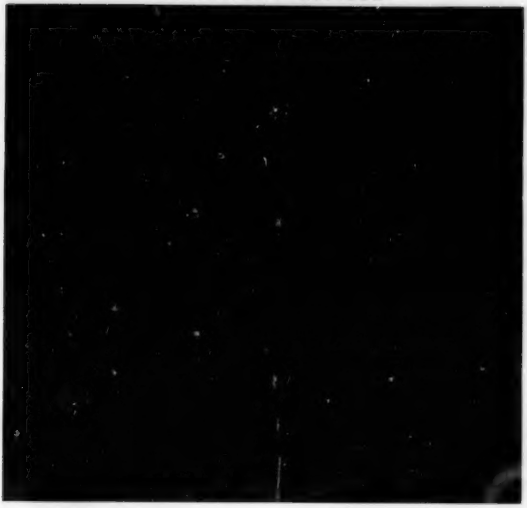
- small white to purple flowers clustered into a narrow head to resemble a single flower, solitary at ends of branches, prominent spines on head

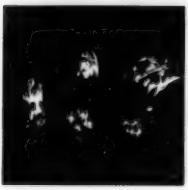
General:

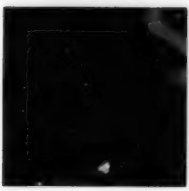
Annual to short lived perennial that spreads by seed. Commonly confused with spotted or russian knapweed. However, diffuse knapweed is easily distinguished as the flower head is covered with prominent spines. Also, the leaves are more finely divided and the stem is more branched in diffuse knapweed. Reported to exude chemicals which prevents the germination or establishment of neighboring plants.

SPOTTED KNAPWEED

Centaurea maculosa







Description

Name: Spotted knapweed *(Centaurea maculosa)*

Classification: Restricted

Recognizable features:

Stem:
- branched, up to 1 m tall

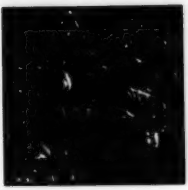
Leaves:
- initially form a rosette, later become alternate, divided into segments, slightly hairy

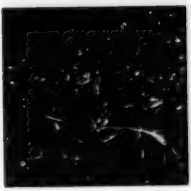
Flowers:
- small pink to purple flowers clustered into a head to resemble a single flower, solitary at ends of branches, bracts with black tips

General:
Biennial to short lived perennial that spreads by seed. Commonly confused with diffuse or russian knapweed. However, spotted knapweed is easily distinguished by the "spotted" bracts on the flower head. Reported to exude chemicals which prevents the germination or establishment of neighboring plants.

RUSSIAN KNAPWEED

Centaurea repens





Description

Name: Russian knapweed *(Centaurea repens)*

Classification: Noxious

Recognizable features:

Stem:

- erect, much branched, becoming hairless with maturity, up to 80 cm tall

Leaves:

- initially form a rosette, later become alternate, lower leaves toothed to deeply lobed, upper leaves attached directly to stem, smooth to toothed margins

Flowers:

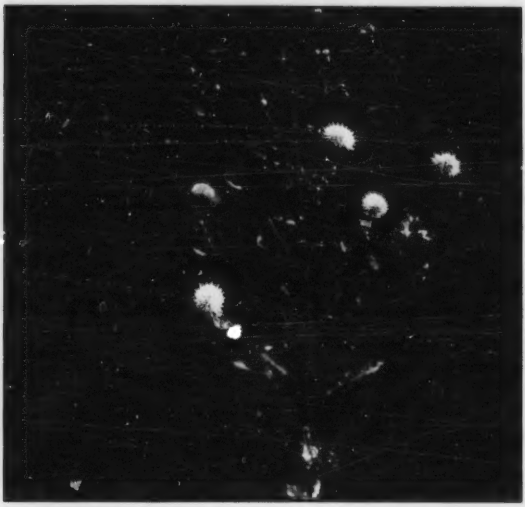
- small pink to purple flowers clustered in a head to resemble a single flower, solitary at ends of leafy branches, bracts green with whitish tips

General:

Perennial that spreads by seed and black creeping roots. Commonly confused with diffuse and spotted knapweed. However, russian knapweed is easily distinguished as it has neither black spots or spines on the flower head as on spotted or diffuse knapweed respectively. Reported to exude chemicals which prevents the germination or establishment of neighboring plants.

CANADA THISTLE

Cirsium arvense



Description

Name: Canada thistle *(Cirsium arvense)*

Classification: Noxious

Recognizable features:

Stem:

- upright, branching near the top, hollow

Leaves:

- alternate, slightly clasping the stem, variable, from a smooth margin with no spines to irregularly lobed with sharp spines

Flowers:

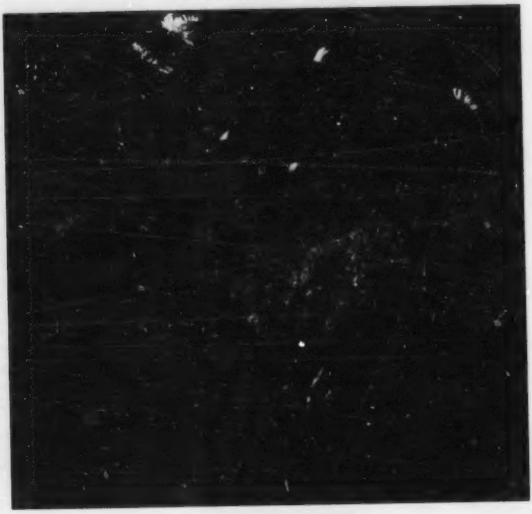
- small white to purple flowers clustered into a head resembling a single flower, male (round) and female (flask or urn shaped) flowers found on separate plants, positioned at the ends of branches

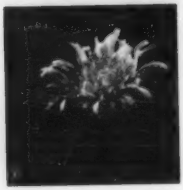
General:

Perennial that spreads by seed and creeping roots. Feathery hairs (pappus) attached to seeds to aid in short distance dispersal.

PERENNIAL SOW-THISTLE

Sonchus arvensis





Description

Name: Perennial sow-thistle *(Sonchus arvensis)*

Classification: Noxious

Recognizable features:

Stem:

- upright, leafy at the base with only a few leaves on the stem, up to 2 m tall

Leaves:

- initially form a rosette, later become alternate, up to 20 cm long, clasp the stem, variable, deeply lobed with spiny edges to smooth leaf margins, color varies from light green to dark green

Flowers:

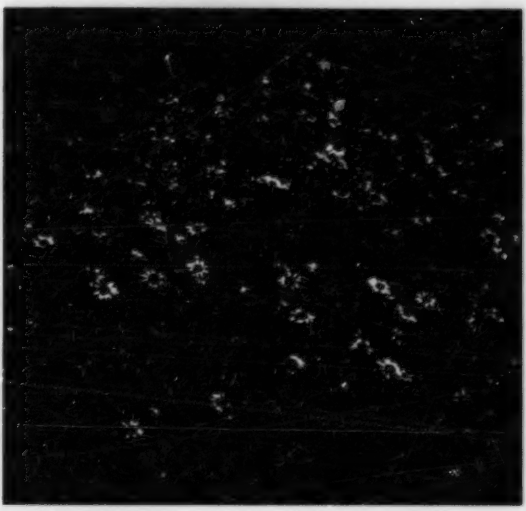
- small deep yellow flowers clustered into a head to resemble a single flower, each flower head up to 4 cm in diameter, heads arranged in a loose terminal cluster with approximately 20 heads / plant

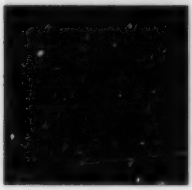
General:

Commonly confused with annual sow-thistle and prickly lettuce. However, perennial sow-thistle spreads by seed and by extensive underground roots, whereas annual sow-thistle spreads only by seed and has a smaller root system. Perennial sow-thistle is also easily distinguished from prickly lettuce as it does not have the distinctive ridge of spines on the midrib on the underside of the leaf that is associated with prickly lettuce. Entire plant contains a milky juice. Feathery hairs (pappus) attached to the seed aid in dispersal.

SCENTLESS CHAMOMILE

Matricaria maritima





Description

Name: Scentless chamomile *(Matricaria maritima)*

Classification: Noxious

Recognizable features:

Stem:
- highly branched, bushy, smooth, up to 1 m tall

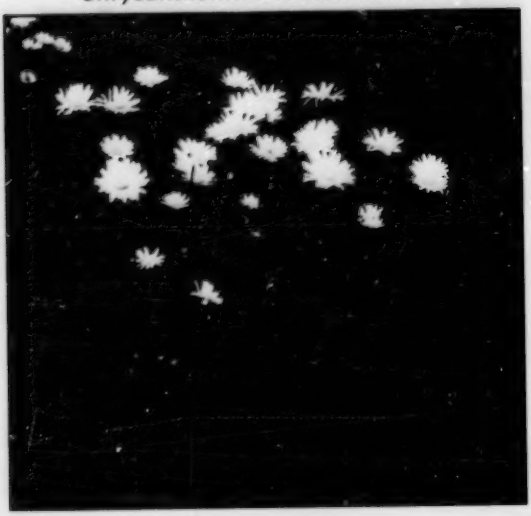
Leaves
- alternate, very finely divided into thread-like segments, usually hairless

Flowers:
- white and yellow, daisy-like, solitary at the ends of long branches

General:
Annual or winter annual to short lived perennial that spreads by seed (400,000 seeds / plant). Commonly confused with ox-eye daisy when in flower. However, scentless chamomile is easily distinguished by the finely divided leaves and bushy growth. Also confused with pineapple weed when flowers are absent. Although, easily distinguished by the lack of odor when leaves are crushed ("scentless"), while pineapple weed has a distinct fruity odor ("pineapple").

OX-EYE DAISY

Chrysanthemum leucanthemum



Description

Name: **Ox-eye daisy** *(Chrysanthemum leucanthemum)*

Classification: Noxious

Recognizable features:

Stem:
- generally unbranched and hairless, up to 1 m tall

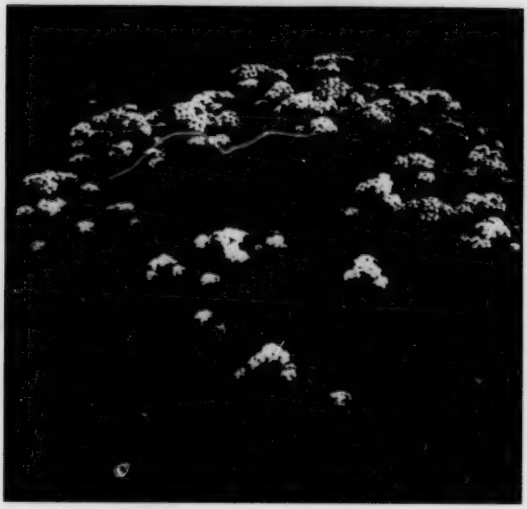
Leaves:
- lower leaves are stalked, up to 15 cm in length, stem leaves progressively smaller and attached directly to the stem, generally hairless, irregularly lobed or wavy margin

Flowers:
- white and yellow, daisy - like, solitary at the ends of long branches, up to 5 cm in diameter

General:
Perennial that spreads by seed and underground horizontal stems (rhizomes). Commonly confused with scentless chamomile as the flowering heads are very similar. However, the leaves of scentless chamomile are more finely dissected.

COMMON TANSY

Tanacetum vulgare



Description

Name: Common tansy *(Tanacetum vulgare)*

Classification: Noxious

Recognizable features:
Stem:
- several stems in a cluster, branched, up to 2 m tall

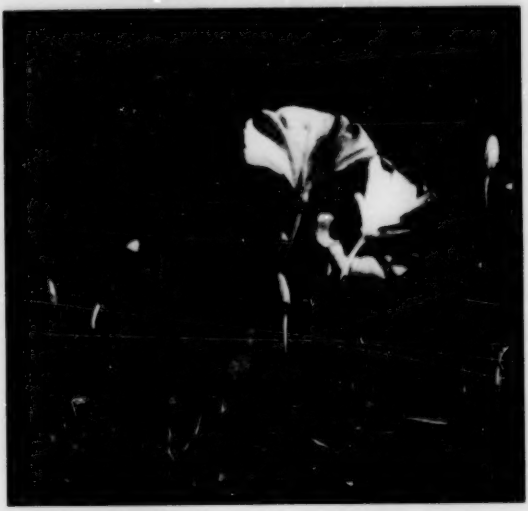
Leaves:
- alternate, deeply divided into toothed segments

Flowers:
- small yellow flowers grouped into button-like heads, 1 cm wide, 20 - 200 flower heads / plant arranged in a flat topped cluster

General:
Aromatic perennial that spreads by seed and short underground horizontal stems (rhizomes). Forms dense patches. Toxic to animals.

FIELD BINDWEED

Convolvulus arvensis



Description

Name: Field bindweed *(Convolvulus arvensis)*

Classification: Noxious

Recognizable features:

Stem:
- vine-like, twining, prostrate, up to 3 m long

Leaves:
- alternate, shaped like a slender arrowhead with spreading lobes at the base, on stalks, margins smooth or entire, up to 5 cm long

Flowers:
- bell to funnel shaped, white to pink, up to 5 cm across, 2 small leaf-like bracts on the stem below the flower

General:

Perennial weed that spreads rapidly by seed and creeping roots. Forms dense tangled mats or twines around other plants, fences, etc. Commonly confused with wild morning glory and wild buckwheat. However, field bindweed is easily distinguished by the presence of two small leaf-like bracts on the stem below the flower. Also, the absence of a papery sheath (ocrea) at the base of the leaf stalk also distinguishes field bindweed from wild buckwheat.

WHITE COCKLE
Lychnis alba

Description

Name: White cockle *(Lychnis alba)*

Classification: Noxious

Recognizable features:

Stem:

- covered in short hairs, upright, swollen at the point where leaves are attached (node), up to 1 m tall

Leaves:

- opposite, elongate, pointed at the tip, covered in short hairs, smooth leaf margin, up to 10 cm long

Flowers:

- 5 deeply notched white petals sometimes giving the appearance of 10 petals, 2 kinds of flowers, one with 10 veins on the lower part of the flower (calyx) which is inflated and produces seed (female), one with 20 veins on the calyx which is slender and produces pollen (male)

General:

Biennial to short lived perennial that spreads by seed. Commonly confused with night flowering catchfly. However, white cockle is easily distinguished as it does not have sticky leaves or stems.

BLADDER CAMPION
Silene cucubalus

Description

Name: Bladder campion *(Silene cucubalus)*

Classification: Noxious

Recognizable features:

Stem:
- branching, smooth, swollen at point where leaves attach to stem (node), up to 50 cm tall

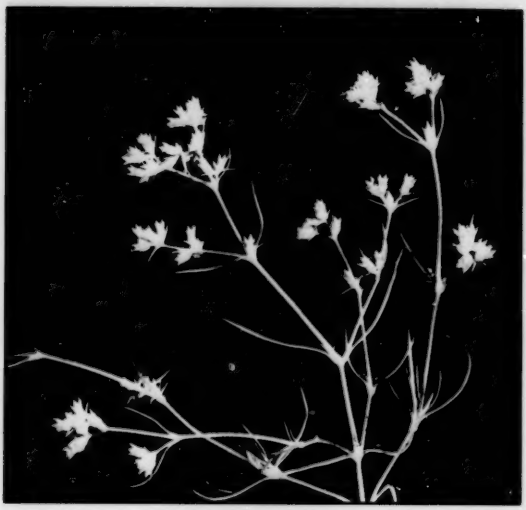
Leaves:
- opposite, ovate to elongate, margins generally smooth or entire, without stalks, waxy

Flowers:
- white, in clusters at ends of branches, base of flower (calyx) becomes inflated, veiny and purplish brown as plant matures

General:
Persistent perennial weed that spreads rapidly by seed and roots branching from a central taproot. Commonly confused with white cockle and night flowering catchfly. However, bladder campion is easily distinguished as it is not covered in hairs.

KNAWEL

Scleranthus annuus



Description

Name: Knawel *(Scleranthus annuus)*

Classification: Noxious

Recognizable features:

Stem:

- much branched, swollen at the point where the leaves are attached (node), weak, up to 25 cm tall

Leaves:

- opposite, attached directly to the stem, needle-like, a few hairs may be present at base of leaf

Flowers:

- small, green, no petals, sepals fused into a cup-like structure, in small clusters at the base of the upper leaves

General:

Annual or winter annual that spreads by seed. Possible indicator of acidic soils. Commonly confused with corn spurry. However, knawel is easily distinguished as the leaves are opposite and the flowers are green and inconspicuous.

CLEAVERS

Galium spurium

Description

Name: Cleavers *(Galium spurium)*

Classification: Noxious

Recognizable features:
Stem:
- square, trailing to twining, short bristles, up to 2 m in length

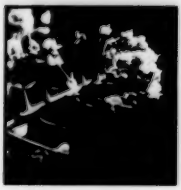
Leaves:
- in whorls (6 - 8 leaves at one point of attachment), pointed at the tip, rough texture

Flowers:
- small, 4 white petals, found on small stems in leaf axils

General:
Annual or winter annual that spreads by seed. Entire plant is covered in bristles which snag like velcro. Fruiting structures are found in pairs

HOARY CRESS

Cardaria spp.



Description

Name: Hoary cress *(Cardaria spp.)*

Classification: Noxious

Recognizable features:

Stem:
- upright with a few branches, lower stem sparsely to densely hairy, upper stem hairless to sparsely hairy, up to 60 cm tall

Leaves:
- alternate, lower leaves sparsely to densely hairy, stalked, upper leaves hairless to sparsely hairy and attached directly to the stem, leaf margin smooth to irregularly toothed, up to 8 cm long

Flowers:
- small, 4 white petals, flowers clustered to alternately arranged at the end of the stem

General:
Perennial that spreads by seed and creeping roots. Three species of Hoary cress are found in Alberta. Each is named according to the distinct shape of the fruiting structure (pod); heart-podded, lens-podded and globe-podded hoary cress.

TOADFLAX (COMMON / YELLOW)

Linaria vulgaris

Description

Name: Toadflax (Common / Yellow) *(Linaria vulgaris)*
Classification: Noxious
Recognizable features:
Stem:
- often several stems forming dense patches, unbranched to few branches in upper stem, hairless, up to 1 m tall

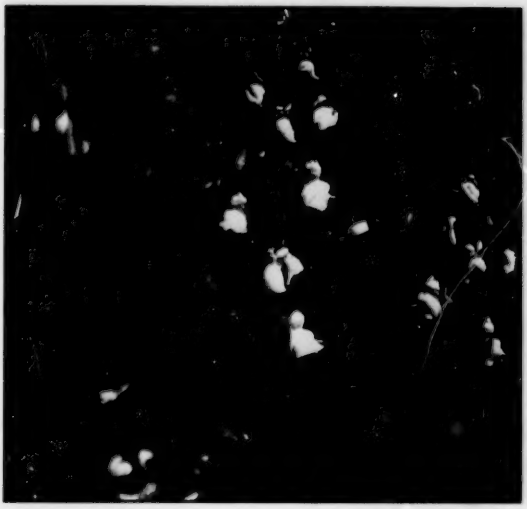
Leaves:
- alternate to spirally arranged, numerous, attached directly to the stem, hairless, margins smooth or entire, linear, up to 10 cm long

Flowers:
- resemble snapdragon, bright yellow with yellow-orange throat, up to 3.5 cm long including the spur extending from the base, alternately arranged along terminal ends of stems

General:
Perennial that spreads by seed and creeping roots. Commonly confused with leafy spurge when flowers are absent. However, yellow toadflax is easily distinguished by the absence of milky juice in the plant. Also confused with dalmation toadflax, but easily distinguished by the presence of long linear leaves compared to the short broad leaves of dalmation toadflax.

DALMATION TOADFLAX

Linaria dalmatica L.



Description

Name: Dalmation Toadflax *(Linaria dalmatica L.)*

Classification: Noxious

Recognizable features:

Stem:

- often several stems forming dense patches, unbranched to few branches in upper stem, hairless, up to 1 m tall

Leaves:

- alternate, hairless, broad base, clasp stem

Flowers:

- resemble snapdragon, bright yellow with yellow-orange throat, up to 3.5 cm long including the spur extending from the base

General:

Easily distinguished from Common or Yellow Toadflax by the broad leaves. Perennial reproducing by seed and creeping roots.

LEAFY SPURGE
Euphorbia esula

Description

Name: Leafy spurge *(Euphorbia esula)*
Classification: Noxious
Recognizable features:
Stem:
- thickly clustered, hairless, up to 1 m tall

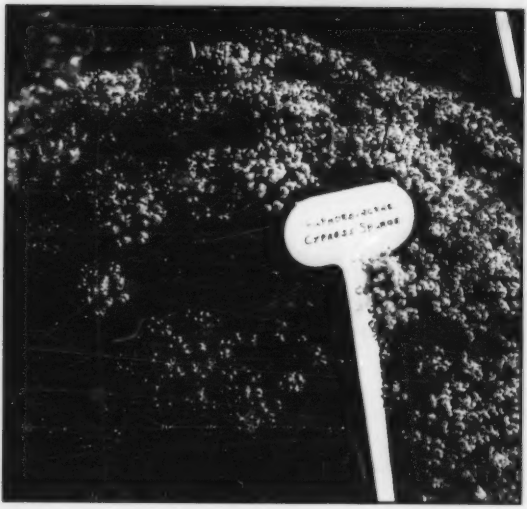
Leaves:
- alternate to spirally arranged, numerous, hairless, attached directly to the stem, narrow, margins smooth or entire, up to 7 cm long

Flowers:
- greenish-yellow, petals and sepals are absent, clustered with 1 female flower surrounded by several male flowers held within a cup-like structure, subtended by 2 green leaf-like bracts

General:
Perennial that spreads by seed and creeping roots. Forms dense stands. Commonly confused with cypress spurge. However, leafy spurge is easily distinguished as the plant is taller and leaves are longer, with less branching in the upper part of the plant. All plant parts contain a milky juice which can cause skin irritations.

CYPRESS SPURGE

Euphorbia cyparissias



Description

Name: Cypress spurge *(Euphorbia cyparissias)*

Classification: Noxious

Recognizable features:

Stem:
- erect, usually much branched near top of plant, up to 80 cm tall

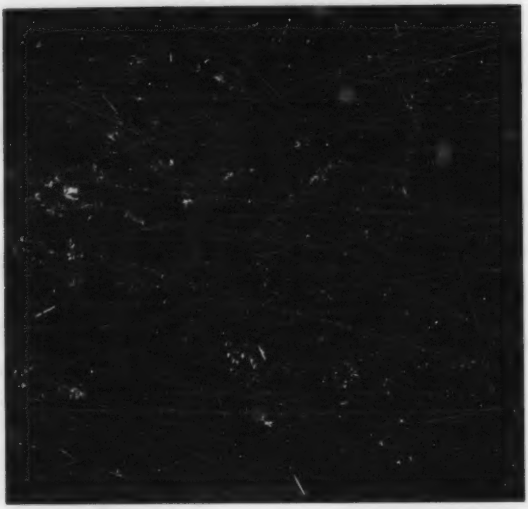
Leaves:
- alternate, numerous, small, narrow, linear

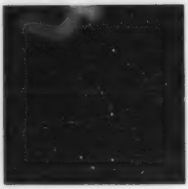
Flowers:
- greenish - yellow, small, clustered at the ends of branches, petals and sepals are absent, subtended by yellowish - green heart shaped bracts which usually turn reddish - green with maturity

General:
Spreads by seed and an extensive root system. Forms dense stands. Contains a milky juice which is a skin irritant and may also be toxic to animals. Commonly confused with leafy spurge. However, cypress spurge is easily distinguished as the plant and leaves are shorter, and there is more branching in the upper part of the plant.

STORK'S BILL

Erodium cicutarium





Description

Name: Stork's bill *(Erodium cicutarium)*

Classification: Noxious

Recognizable features:

Stem:

- hairy, trailing, up to 2 m long

Leaves:

- opposite, hairy, finely divided into feathery lobes or toothed segments

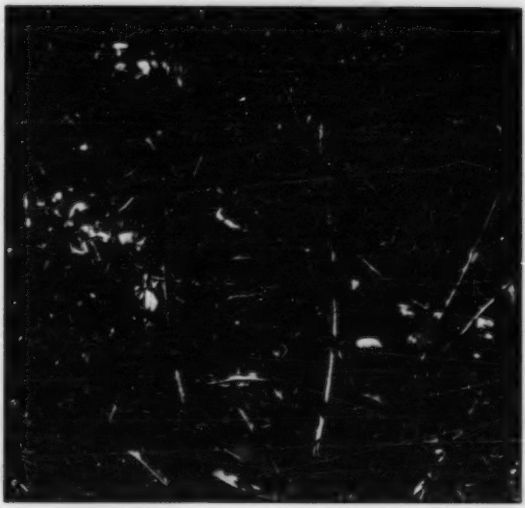
Flowers:

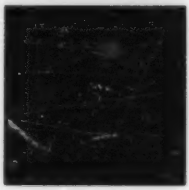
- pink to purple, 5 petals, in clusters

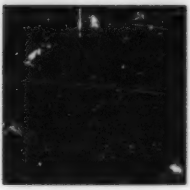
General:

Annual, winter annual or biennial that spreads by seed. Emerges late and stays green into the fall. Fruit has a long beak ("stork's bill") that coils at maturity and splits open from bottom to top.

BLUEWEED
Echium vulgare







Description

Name: Blueweed *(Echium vulgare)*

Classification: Noxious

Recognizable features:
Stem:
- covered in short stiff hairs, up to 1 m tall

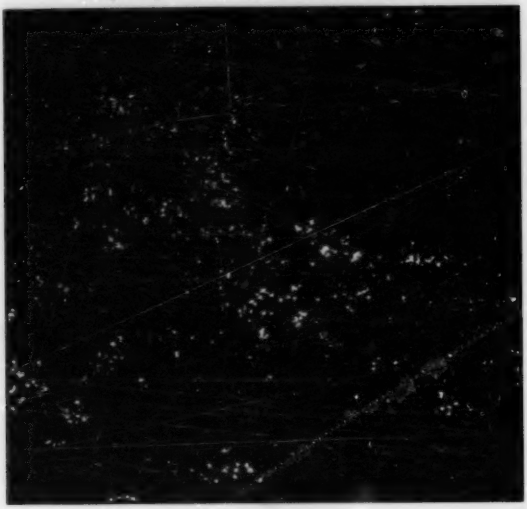
Leaves:
- initially forms a rosette, later the leaves become alternate, rough texture, hairy

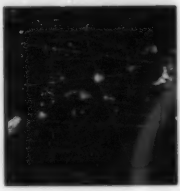
Flowers:
- bright blue, showy, arranged in 1 - sided short arching branches

General:
Biennial to short lived perennial. Commonly found in marginal soils.

SPREADING DOGBANE

Apocynum androsaemifolium





Description

Name: Spreading dogbane *(Apocynum androsaemifolium)*

Classification: Noxious

Recognizable features:
Stem:
- much branched, up to 60 cm tall

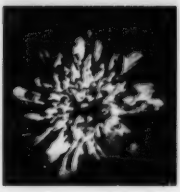
Leaves:
- opposite, dark green above, lighter green below, broad at the base and narrow towards tip, attached to stem by a short stalk

Flowers:
- white to pink, 5 petals partially joined to form a bell shape, in loose clusters at the ends of branches and in leaf axils

General:
Perennial that spreads by seed and rhizomes. Exudes a milky juice which can be toxic to animals.

FIELD SCABIOUS

Knautia arvensis



Description

Name: Field scabious *(Knautia arvensis)*

Classification: Noxious

Recognizable features:

Stem:

- covered in short stiff hairs, sparsely branched, up to 1.5 m tall

Leaves:

- opposite, covered in short stiff hairs, lower leaves toothed, middle leaves lobed, upper leaves reduced in size

Flowers:

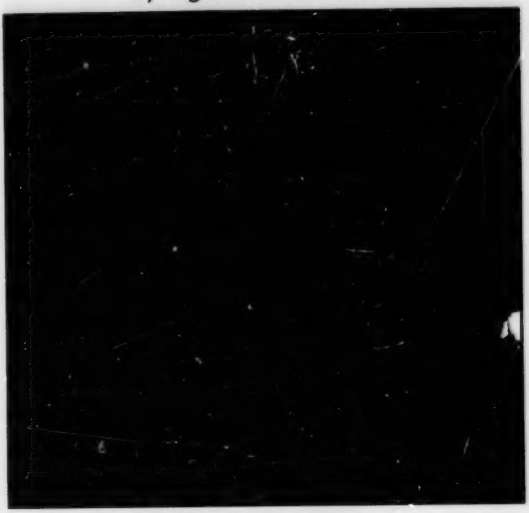
- small blue to purple flowers clustered into a head to resemble a single flower, below the head is a ring of narrow green bracts, solitary on the ends of long leafless stems, flower heads up to 4 cm in diameter

General:

Perennial that spreads by seed.

HOUND'S TONGUE

Cynoglossum officinale



Description

Name: Hound's tongue *(Cynoglossum officinale)*

Classification: Noxious

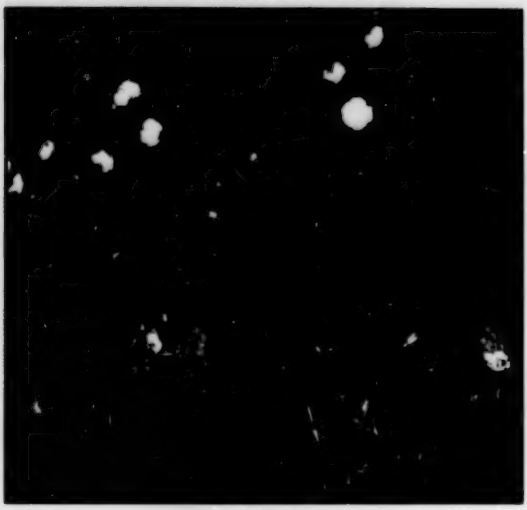
Recognizable features:
Stem:
- up to 1.5 m tall

Leaves:
- initially form a rosette, later become alternate, rough textured (like a hound's tongue), hairy, smooth or entire margin, large, up to 30 cm long

Flowers:
- reddish-purple

General:
Biennial that spreads by seed. Contains toxic alkaloids that can cause liver damage to grazing animals. Produces numerous bristly seeds that spread by attaching to animals or clothing.

TALL BUTTERCUP
Ranunculus acris



Description

Name: Tall buttercup *(Ranunculus acris)*

Classification: Noxious

Recognizable features:
Stem:
- much branched above, up to 90 cm tall

Leaves:
- lower leaves deeply divided into 3 - 5 lobes, upper leaves reduced to 3 - 4 narrow segments, hairy

Flowers:
- yellow, waxy, 5 petals

General:
Perennial that spreads by seed. Contain acrid juice that causes pain and inflammation in grazing animals. Common in wet areas and pastures.

PURPLE LOOSESTRIFE

Lythrum salicaria

Description

Name: Purple loosestrife *(Lythrum salicaria)*

Classification: Noxious

Recognizable features:

Stem:

- square, woody, several stems / plant, up to 2.5 m tall

Leaves:

- opposite to spirally arranged, attached directly to stem, smooth margins

Flowers:

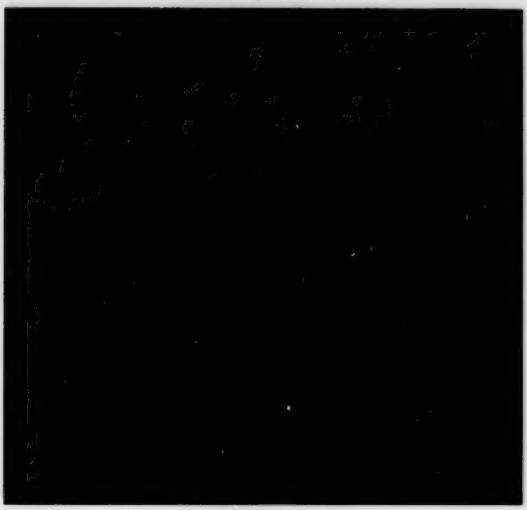
- numerous, pink to purple, 6 wrinkled petals, attached directly to stem in a dense spike

General:

Wetland perennial that forms dense brush-like stands. Spreads mainly by seed (2.5 million / plant). Also spreads by underground horizontal stems (rhizomes).

PERSIAN DARNEL

Lolium persicum



Description

Name: Persian darnel *(Lolium persicum)*

Classification: Noxious

Recognizable features:

Stem:

- upright, branching from a reddish base, up to 45 cm tall

Leaves:

- lower surface glossy, dark green, 6 mm wide

Flowers:

- clusters of small flowers attached directly to the stem forming a spike, spikelets sitting edgewise on the stem, bristles (awns) extending from each spikelet

General:

Annual grass that spreads by seed. Fibrous roots.